

d. Remarks

CLAIM AMENDMENTS

The amendment to claim 8 is, e.g., supported at Figures 2 and 17.

CLARITY REJECTIONS

At page 2, the Office Action rejects claims 12 – 14, 22 and 25 as being unclear under 35 U.S.C. § 112, second paragraph.

In claim 12, “the extrinsic portion of the top one of the layers” has been replaced by “an extrinsic portion of the top one of the semiconductor layers”. This amendment makes moot the insufficient antecedent basis objection. In addition, this amendment provides antecedent basis for recitations of “the extrinsic portion of the top one of the semiconductor layers” in dependent claims 13 and 25 (underlining added). For these reasons, Applicants request withdrawal of the clarity rejections to claims 12 – 14, 22, and 25.

ART REJECTIONS

At page 3, the Office Action rejects claims 8, 10, 12 – 14, 16, 22, and 25 as anticipated by U.S. Patent 5,506,427 of Imai (Herein, referred to as Imai.).

Claim 8

As presented herein, claim 8 recites:

wherein the substrate includes a subcollector that forms an electrical contact for the collector layer, the entire subcollector being located outside of the portion of the substrate that is vertically below part of the base layer.

(underlining added).

Amended claim 8 clearly recites that the substrate includes subcollector and that the entire subcollector is not located in the portion of the substrate vertically below part of the base layer. Figures 1A - 7 of Imai do not disclose or suggest such a subcollector. In particular, while Figure 1H of Imai shows a N⁺-type region 12 that functions as a subcollector for collector layer 14, Figure 1H shows the N⁺-type region 12 as extending vertically below each part of the base layer. Thus, it does not suggest that the entire subcollector is outside of the portion of the substrate that is vertically below some part of the base layer. Thus, the portion of Imai relied upon by the Office Action does not teach the above-recited feature of present claim 8, and the novelty rejection should be withdrawn.

Claims 10, 12 – 14, 16, 22, and 25

Claims 10, 12 – 14, 16, 22, and 25 are novel over Imai, as applied in the Office

Action, at least, by their dependence on present claim 8.

At page 4, the Office Action rejects claim 17 as obvious over a combination of Imai and U.S. Patent 5,444,003 of Wang et al (Herein, referred to as Wang.).

Claim 17 is non-obvious over the above combination as applied in the Office Action, at least, by its dependence on non-obvious claim 8.

At page 5, the Office Action rejects claims 18 – 19 and 29 – 30 as obvious over a combination of Imai and U.S. Patent 6,541,346 of Malik (Herein, referred to as Malik.).

Claims 18 – 19 and 29 – 30 are non-obvious over the above combination as applied in the Office Action, at least, by their dependence on non-obvious claim 8.

At page 6, the Office Action rejects claim 31 as obvious over a combination of Imai, Malik, and U.S. Patent 5,096,844 of Konig et al (Herein, referred to as Konig.).

Claim 31 is non-obvious over the above combination as applied in the Office Action, at least, by its dependence on non-obvious claim 8.

CONCLUSIONS

Applicants request allowance of claims 8, 10, 12 – 14, 16 – 19, 22, 25, and 29 – 31 as presented herein.

In the event of a non-payment or an improper payment of a required fee, the Commissioner is authorized to charge or to credit **Deposit Account No. 12-2325** as required to correct the error.

Respectfully,



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